

and decreased in size, portable personal computers have become more useful and powerful. One smaller version of the personal computer design that has proven useful and quite popular is the so-called personal digital assistant (PDAs), such as Newton.RTM, by Apple Computer, Inc. In general, the average consumer uses the PDA to store telephone numbers and to manage the user's everyday schedule. However, because PDAs are highly programmable, PDAs may be loaded with various software packages that provide other functionality, such as wireless sending and receiving of data. As such, because of the increased popularity PDA use has become prevalent for managing a user's everyday affairs.

[0012] Both mobile telephones and miniaturized portable personal computers, such as PDAs, suffer from one drawback in that they are generally not configured for use in any other way than originally intended. Electronics designers are constantly looking for ways to expand the functionality of the aforementioned mobile devices since the mobile devices are gaining increasing popularity amongst consumers. For example, it would be desirable to configure the mobile devices for transaction completion. Until then, the ordinary consumer is forced to carry the mobile device and at least one transaction device, such as a credit card, debit card, loyalty card, or radio frequency transaction device (e.g., SPEEDPASS™ and EXPRESSPAY™) on his person. That is, the advent of the technology era has increased a need to combine the functionality of the mobile devices with the transaction completion capability of the transaction devices to limit the number of devices carried by the consumer.

SUMMARY OF INVENTION

[0013] The present invention relates to a system and method for providing a RF operable transaction device that may be used to convert any article to a RF transaction device. Specifically, the present invention relates to a method of providing a RF transaction device that may be manufactured using conventional RF transaction card manufacturing machinery. The RF device may also be personalized using traditional personalizing machinery and processes.

[0014] It is, therefore, an object of the present invention to provide a RF operable transaction device manufacturing system and method which requires little retrofitting of conventional transaction card manufacturing and personalization machinery.

[0015] In one embodiment, the present invention relates to a process for producing a RF operable transaction device, having any one or more features, such as a holographic foil, integrated circuit chip, silver magnetic stripe with text on the magnetic stripe, opacity gradient, perforations included in the transparent device body for forming an outline of a shape, and an "active thru" date on the front of the device.

[0016] In one aspect, the RF transaction device of the present invention may use RF technology to initiate and complete financial transactions. In that regard, the transaction device included in the device may include one or more RF operable transponders and antennas, which are typically included during the transaction device fabrication. The system in which the RF transaction device may be used may include a RFID reader operable to provide a RF interrogation signal for powering the transaction device transponder

system, receiving a transponder system RF signal including transponder system account data, and providing transponder system account data relative to the transponder system RF signal although, the transaction device may include its own internal power source. The RFID reader may include an RFID reader protocol/sequence controller in communication with one or more interrogators for providing an interrogation signal to a transponder of the transaction device, a RF authentication circuit for authenticating the signal received from the transponder, and a serial or parallel interface for interfacing with a point-of-interaction device.

[0017] The RFID reader may be configured to send a standing RF recognition signal which may be continuously or intermittently transmitted from the RFID reader via radio frequency (or electromagnetic) propagation. In one instance, the transaction device may be placed within proximity to the RFID reader such that the RF recognition signal may interrogate the device and initialize device identification or authorization procedures.

[0018] In another aspect of the invention, a transaction device is provided which may be issued to a user in a transaction device transporter wherein the user may remove the transaction device from the transporter for use with any form factor. In one exemplary transaction device manufacturing method, a plurality of transporter and transaction devices (called "transaction device combination" herein) is manufactured simultaneously on a single sheet using conventional manufacturing machinery. Each of the plurality of transaction device combinations is manufactured as a removable subpart the sheet of the plurality of transaction device combinations, wherein each combination may be an independent operable RF transaction device, which is ISO/7810-1985 compliant in size. As such, the transaction device combination may be manufactured, stamped, and/or cut using conventional manufacturing equipment.

[0019] The transaction device transporter, including the removable transaction device, is manufactured with at least one border of the transaction device transporter directly adjacent a border of the next adjacent transporter, forming a sheet of conjoined transaction device transporters. In one embodiment, the sheet of transporters is manufactured including RF operable transaction devices. In one embodiment, the sheet is manufactured with RF operable transaction devices including conventional RF data transmission circuitry.

[0020] Once the sheet of transaction device combinations is manufactured, the sheet may then be fed through a stamping device for imprinting an outline of the transaction device (e.g., key fob) within a single transporter. The outline of the transaction device is imprinted in the transporter with sufficient depth such that the transaction device and the RF module may be removed from the transporter with minimum physical force. The removable transaction device outline is imprinted such that the transaction device RF circuitry (called "RF module" herein), is included within the shape stamped (or imprinted) into the transaction device transporter, with at least a single imprint included within the transporter's borders. As such, the outline of the transaction device may typically serve as the shape of the transaction device which may be removed from the transporter.

[0021] The sheet may then be cut along the borders of the transaction device transporter into conventional transaction